REMARKS

Applicants appreciate the Office Action of January 23, 2004. Applicants have not provided a listing of Claims as no claim amendments have been made. Applicants respectfully submit that the pending claims are patentable over the cited references for at least the reasons discussed below. Accordingly, Applicants respectfully submit that the pending claims are in condition for allowance, which is respectfully requested in due course.

Independent Claims 1, 20, 22 and 33 are Patentable Over the Cited Combination

Claims 1-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 6,594,699 to Sahai *et al.* (hereinafter "Sahai") in view of United States Patent Publication No. US 2003/0191829 to Masters *et al.* (hereinafter "Masters"). Applicants respectfully submit that many of the recitations of these claims are neither disclosed nor suggested by the cited combination. For example, Claim 1 recites:

> A method for **type of service classification** of a communication request for an application executing on a server, the method comprising the steps of:
> providing an **application plug-in** **associated with the application** **in an operating system kernel of the server**;
> wherein **the application plug-in performs** the following steps:
> receiving the communication request;
> **obtaining application level information from the received communication request**;
> **assigning a type of service classification to the received communication request based on the obtained application level information;** and
> **providing the assigned type of service classification information for the communication request to a process executing on the server for processing communications from the server responsive to the communication request.**

Claims 20 and 22 and Claim 33 contain corresponding system and computer program product recitations, respectively. Applicants submit that at least the highlighted portions of Claim 1 are neither disclosed nor suggested by the cited combination.

The Office Action states that Sahai teaches all the recitations of Claim 1, except the step of providing an application plug-in associated with the application in an operating system

kernel of the server. *See* Office Action, pages 2-3. In particular, a portion of Sahai cited in the Office Action recites:

> In this system 8, a user (not shown) makes a request for a multimedia resource, typically a streamable resource or one capable of being streamed, such as video data, from the server 10 using the client 12 over the network 14 using a universal resource locator (URL). The locator indicates the multimedia data to be streamed or transferred. **As will be discussed in more detail below, the server 10 obtains client capabilities and user preferences from the client 12 and responds to the transfer request by streaming the data over the network 14 to the client 12 based on the capabilities and preferences.**
>
> The capability based and user specifiable streaming of the present invention allows a three way communication to take place among the server 10, the client 12 and the end-user before the data gets streamed from the server 10 to the client 12. **The information of this communication preferably overrides the delivery properties of the asset determined at installation time.**
>
> When the user wants to playback any video/multimedia asset by **"clicking-on"** it in the client 12, not only does this "play" request get shipped across to the server 10 (which is typically the case), but along with it and at the essentially same time a set of "capabilities" of the client 12 are also shipped from the client 12 to the server 10...
>
> With the above-discussed information about the client 12 and the end-user preferences, the server 10 performs: asset selection and media data adaption; server, network and client resource allocation **based on the client capability and preferences**; and then starts the streaming of the multimedia data to the client 12. The above information enables the server 10 to make flexible and accurate decisions about the clients concerning resource allocation for streaming of data.

See Sahai, column 2, line 55 to column 3, line 11 and column 4, lines 31-39. In other words, Sahai discusses an application running on a server that is configured to format and adapt media data based on client capabilities and/or user preferences, *i.e.*, Sahai discusses the details of an application at the application level. In particular, Sahai describes a system in which a user clicks on a hyperlink presented on a browser, for example, Netscape, to provide a request and, in response to the request, a set of capabilities of the client 12 are sent to the server 10. User preferences may also be obtained by the server 12 and the server 12 may process the request by formatting the data and adapting it using the provided client capabilities and/or user preferences. Accordingly, Sahai discusses an application running on

a server configured to receive data from the client and format/adapt the data based on client capabilities and/or user preferences.

In contrast, embodiments of the present invention provide **an application plug-in** associated with an application in an operating system kernel of the server. In other words, the plug-in is part of the kernel of the operating system, *i.e.* the core of the operating system that handles resource allocation, hardware interfaces, and the like, not part the application level modules. A plug-in, by definition, is a module that can be added to a computer application that may provide added functionality to the application. In particular, as stated in the specification:

> The TCP/IP kernel **355**, as shown in **Figure 3**, communicates with the communication network **325** through a router/bridge device **320**. Where the router/bridge device **320** is a router, it typically routes communications packets **based on level 4 information**, such as destination IP address. Where the router/bridge device **320** is a bridge, it may process communications within a network node **using level 3 information**, such as machine identification number, rather than level 4 IP address information.

See Specification, page 14, line 25 to page 15, line 2 and Figure 3. In other words, the TCP/IP kernel 355 of the operating system does not typically obtain (or see) application level data, for example, TCP/IP level 5 or above data, from a received communication request. Thus, according to embodiments of the present invention, the application plug-in process 365 provides the added functionality of obtaining application level information at the TCP/IP kernel 355 from the received communication request and assigning a type of service classification to the received communication request based on the obtained application level information. *See* Specification, page 15, line 23 to page 16, line 14. The type of service classification may be provided to the communication process 360 so as to allow the communication process 360 to process outgoing communications from the server based on the type of service classification assigned.

Nothing in Sahai discloses or suggests an application plug-in **at the kernel of the operating system** that adds the capability of obtaining application level data to the functionality of the operating system. Furthermore, nothing in Sahai discloses or suggests obtaining application level information from the received communication request at the

kernel of the operating system, assigning a type of service classification to the received communication request based on the obtained application level information or providing the assigned type of service classification information for the communication request to a process executing on the server for processing communications from the server responsive to the communication request as recited in Claim 1. Accordingly, Sahai fails to disclose or suggest the recitations of Claim 1 for at least the reasons discussed above.

As discussed above, the Office Action admits that Sahai fails to explicitly teach providing an application plug-in as recited in the claims of the present invention. *See* Office Action, page 3. However, the Office Action states that Masters provides the missing teachings. Applicants respectfully disagree.

As a preliminary note, the filing date of Masters is listed on the publication as September 19, 2001, which is more than one year after May 25, 2000, the filing date of provisional patent application No. 60/207,891 from which priority is claimed. Upon further investigation, Applicants discovered that the actual filing date of Masters may be May 24, 2001. Applicants respectfully request that the Examiner verify the filing date of Masters. Furthermore, the Office Action relies on the provisional filing date of May 25, 2000 to establish Masters as prior art to the present application. Accordingly, Applicants respectfully submit that only the subject matter disclosed in the provisional application can be cited against the present application. Any new matter added to the utility application, which may have been filed on May 24, 2001, cannot be cited against the present application, as the present application was filed October 20, 2000, before the filing date of Masters.

As discussed above, the Office Action states that Masters "teaches the step of providing an application plug-in associated with the application in an operating system kernel of the server" at paragraphs 36-49. *See* Office Action, page 3. The cited portion of Masters and the corresponding Figure 1 discuss a Resource Management Architecture. The resource management architecture provides capabilities for monitoring hosts, networks, and applications within a distributed computing environment. *See* Masters, paragraph 32. As illustrated in Figures 1 and 2 and stated in the corresponding text, the Resource Management Architecture includes hardware components and software modules that are configured to

manage the resources of the system. For example, the Resource Manager 60 is the primary decision making component of the Resource Management Architecture and may be responsible for determining how to respond to host and application failures, where to place new applications and the like. *See* Masters, paragraphs 37-43. In other words, Masters appears to discuss a series of applications working together to manage the resources of the system. Nothing in Masters appears to disclose or suggest an application plug-in, *i.e.*, a module added to a computer application that may provide added functionality to the application. In particular, nothing in Masters discloses or suggests an application plug-in at the kernel of the operating system that adds the capability of obtaining application level data to the functionality of the operating system as recited in Claim 1 of the present invention. Furthermore, nothing in Masters discloses or suggests obtaining application level information from the received communication request at the kernel of the operating system, assigning a type of service classification to the received communication request based on the obtained application level information or providing the assigned type of service classification information for the communication request to a process executing on the server for processing communications from the server responsive to the communication request as recited in Claim 1. Accordingly, Masters fails to disclose or suggest the recitations of Claim 1 for at least the reasons discussed above.

Accordingly, none of the cited references either alone or in combination disclose or suggest many of the recitations of Claim 1 set out above. Furthermore, there is no motivation or suggestion to combine the cited references as suggested in the Office Action. As affirmed by the Court of Appeals for the Federal Circuit in *In re Sang-su Lee*, a factual question of motivation is material to patentability, **and cannot be resolved on subjective belief and unknown authority**. *See In re Sang-su Lee*, 277 F.3d 1338 (Fed. Cir. 2002). It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." *W.L. Gore v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983).

The Office Action states:

One of ordinary skill in the Data Processing art at the time of the invention would have been motivated to modify **Sahai** in view of **Masters** to have the process of providing an application plug-in associated with the application in an operating system kernel of the server; wherein said application plug-in performs the steps of receiving the request, obtaining the application level information, assigning a type of service and providing the type of service because it would perform and provide an optimal level of service and quality of service between client and server with different platforms.

See Office Action, page 3 (emphasis in original). This motivation is a motivation based on "subjective belief and unknown authority", the type of motivation that was rejected by the Federal Circuit in *In re Sang-su Lee*. In other words, the Office Action does not point to any specific portion of the cited references that would induce one of skill in the art to combine the cited references as suggested in the Office Action. If the motivation provided in the Office Action is adequate to sustain the Office's burden of motivation, then anything that would "perform and provide an optimal level of service" would render a combination obvious. This cannot be the case. Accordingly, the statement in the Office Action with respect to motivation does not adequately address the issue of motivation to combine as discussed in *In re Sang-su Lee*. Thus, it appears that the Office Action gains its alleged impetus or suggestion to combine the cited references by hindsight reasoning informed by Applicants' disclosure, which, as noted above, is an inappropriate basis for combining references.

Furthermore, as discussed above, Sahai discusses an application running on a server configured to receive data from the client, format/adapt the data based on client capabilities and/or user preferences and send the modified data to the client. Masters, on the other hand, discusses a resource management architecture configured to monitor hosts, networks, and applications within a distributed computing environment. Nothing in the cited references or the art itself would motivate a person of skill in the art to combine the data streaming application of Sahai with the resource management application of Masters. Furthermore, even if Sahai and Masters could be properly combined, the combination of Sahai and Masters would teach a data streaming application with resource management capabilities where the format of the data streamed may be adapted based on client capabilities and/or user preferences. At most the resource management would be an application level

communication gateway, not an application "plug-in" to an operating system kernel. Accordingly, even if the cited referenced could be properly combined, the cited combination fails to teach an application plug-in provided in the kernel of the operating system used to obtain application level data from a communication request to assign type of service classifications as recited in the claims of the present invention.

Accordingly, Applicants respectfully submit that Independent Claims 1, 20, 22 and 33 are patentable over the cited combination for at these additional reasons. Furthermore, dependent Claims 2-19, 21, 23-32 and 34-43 are patentable at least per the patentability of Independent base Claims 1, 20, 22 and 33 from which they depend. Accordingly, Applicants submit that Independent Claims 1, 20, 22 and 33 and the claims that depend therefrom are in condition for allowance, which is respectfully requested in due course.

Many of the Dependent Claims are Independently Patentable

As discussed above, the dependent claims are patentable over the cited references at least per the patentability of the independent base claims from which they depend. However, many of the dependent Claims are also independently patentable.

In particular, as discussed above, the cited combination fails to disclose or suggest many of the recitations of Independent Claims 1, 20, 22 and 33 from which the dependent claims depend. Furthermore, the Office Action fails to point to a teaching that provides a motivation to combine the cited references in either the references themselves or in the art. Accordingly, since many of the dependent claims discuss further details with respect to the recitations of the independent claims from which they depend and add further aspects of the present invention, it follows that nothing in the cited combination discloses or suggests the additional details and aspects of the present invention set out in many of the dependent claims. Accordingly, many of the dependent claims are separately patentable over the cited references for at least these additional reasons.

CONCLUSION

Applicants respectfully submit that the pending claims are in condition for allowance, which is respectfully requested in due course. It is not believed that any extension of time is required for this paper. However, in the event that an extension of time is necessary to allow consideration of this paper, such an extension is hereby petitioned under 37 C.F.R. §1.136(a). Any additional fees believed to be due in connection with this paper may be charged to our Deposit Account No. 09-0461.
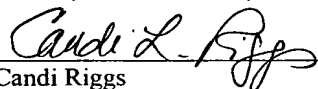
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